

Use Attainability Analysis

for

WBID 1314 Drywood Creek

Submitted by  
SES, Inc.

To  
Missouri Department of Natural Resources  
Water Protection Program

Date Received: September 10, 2007

**Field Data Sheets for Recreation Use Stream Surveys**  
**Data Sheet A - Water Body Identification**  
(For water body being surveyed)

**Water Body Information**

Water Body Name:	Drywood	WBID:	1314
8 digit HUC code:	10290104	County:	Vernon
Upstream Legal Description	T35N	R32W	Sec 5
Downstream Legal Description	T33N	R33W	Sec 29
Number of Sites Evaluated	3		
List all site numbers, listed upstream to downstream			
1                  2                  3			

**Discharger Facility Information**

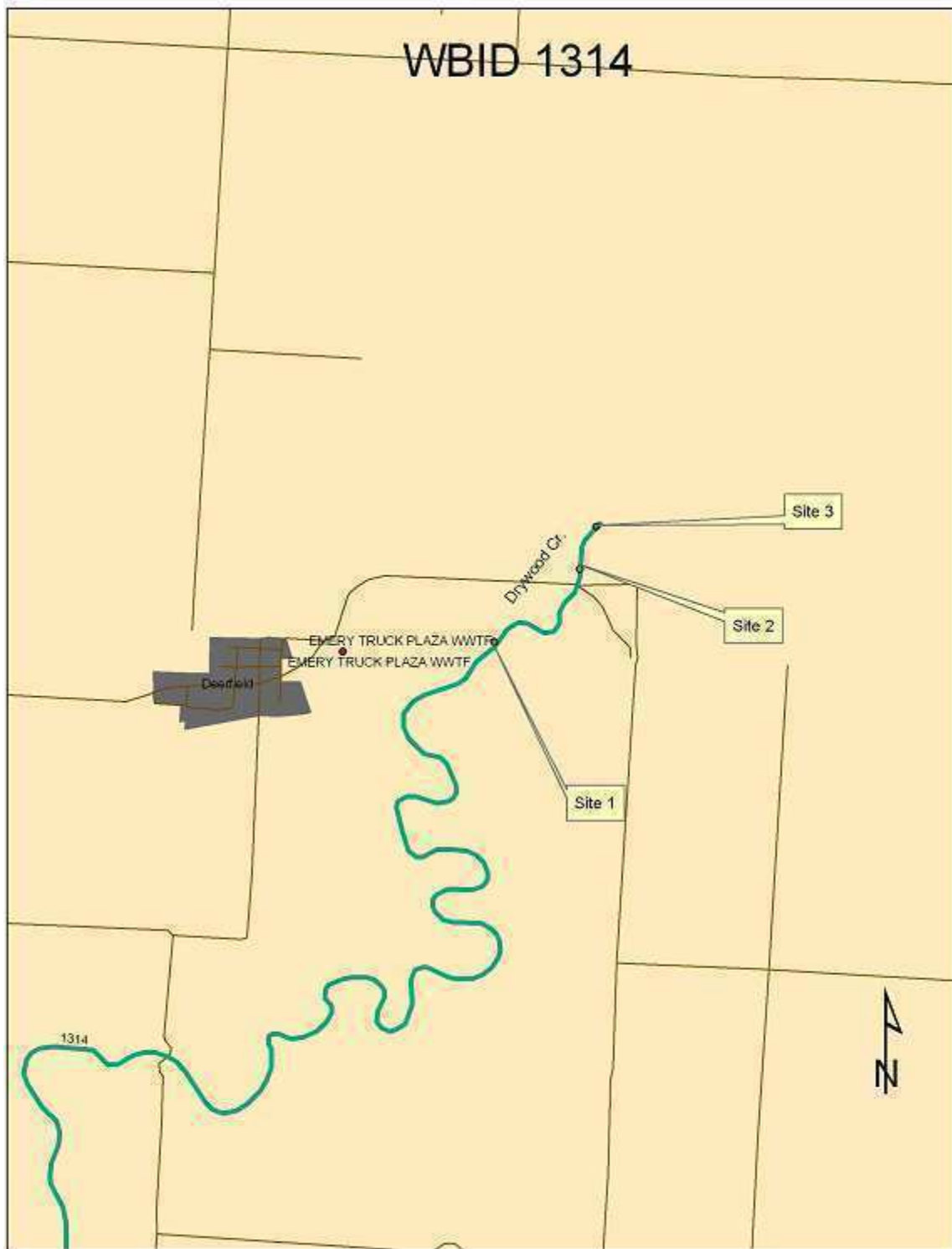
Discharger Facility Name(s):	Emery Truck Plaza WWTF
Discharger Permit Number(s):	MO0109827

**UAA Surveyor**

Name of Surveyor:	Gilisa Gould	Telephone Number:	913-307-0046
Organization/Employer: SES, Inc.			
Position: Field Team Leader			

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

# WBID 1314



**Field Data Sheets for Recreational Use Stream Surveys**  
**Data Sheet B - Site Characterization**  
**(must be completed for each site)**

WBID 1314  
 Site # 1

Date and Time: 8/22/2007 10:00 AM

Current Weather Conditions clear

Weather Conditions for Past 10 days: 0.3 inches was maximum rainfall

Drought Conditions? No

Site Location (e.g. road crossing) Highway 54

GPS Mark: 49

Upstream Photo 39 Downstream Photo 38

**Uses Observed (Uses actually observed at time of survey) Circle**

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	<u><b>None of the Above</b></u>	Other	

**Surrounding Conditions**

City/county parks	Playgrounds	MDC conservation lands	<u><b>Urban areas</b></u>
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other	

**Indications of Human Use**

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	

**WBID #** 1314      **Site #** 5.4  
**Mark #** 49      **Dissolved Oxygen (ppm)** 5.4  
**Upstream Views Physical Dimensions:** Is there any water present at this view? y  
 If so, is there an obvious current? n

**Select one of the following channel features:**

	% of Channel Feature				
Riffle					
Run	100				
Pool					

**Downstream View's Physical Dimensions:** Is there any water present at this view? y  
 If so, is there an obvious current? y


Substrate:

% Cobble	% Gravel	% Sand	50% Silt
50% Mud/Clay	% Bedrock		

**Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)**

none

### Water Characteristics

Odor	Sewage	Musky	Chemical	<u><b>None</b></u>	Other
Color	Clear	<u><b>Green</b></u>	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	<u><b>Fine Sed.</b></u>	None	Other
Surface Deposit	Oil	Scum	Foam	<u><b>None</b></u>	Other

**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 1

Mark # 49

WBID # 1314

	Depth (m)
<b>Transect 1</b>	0.10
Substrate:	0.60
silty clay	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	1.00
<b>1.00</b>	<b>1.00</b>
<b>Transect 2</b>	0.15
Substrate:	0.75
silty clay	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	1.00
<b>1.00</b>	<b>1.00</b>
<b>Transect 3</b>	0.20
Substrate:	0.75
silty clay	0.95
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	1.00
<b>1.00</b>	<b>1.00</b>
<b>Transect 4</b>	0.10
Substrate:	0.80
silty clay	0.95
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	1.00
<b>1.00</b>	<b>1.00</b>

	Depth (m)
<b>Transect 5</b>	0.20
Substrate:	0.45
silty clay	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
8.00	1.00
<b>1.00</b>	<b>1.00</b>
<b>Transect 6</b>	0.10
Substrate:	1.00
silty clay	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
8.00	1.00
<b>1.00</b>	<b>1.00</b>
<b>Transect 7</b>	0.15
Substrate:	0.75
silty clay	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
8.00	1.00
<b>1.00</b>	<b>1.00</b>
<b>Transect 8</b>	0.00
Substrate:	0.00
silty clay	0.00
Water Clarity:	0.00
none	0.00
Channel Feature:	0.00
run	0.00
Channel Width:	0.00
10.00	0.00
<b>0.00</b>	<b>0.00</b>

	Depth (m)
<b>Transect 9</b>	0.15
Substrate:	0.90
silty clay	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
11.00	1.00
<b>1.00</b>	<b>1.00</b>
<b>Transect 10</b>	0.20
Substrate:	0.25
silty clay	0.30
Water Clarity:	0.75
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	1.00
<b>1.00</b>	<b>1.00</b>
<b>Transect 11</b>	0.00
Substrate:	0.00
silty clay	0.00
Water Clarity:	0.00
none	0.00
Channel Feature:	0.00
run	0.00
Channel Width:	0.00
9.00	0.00
<b>0.00</b>	<b>0.00</b>
<b>Site Median</b>	<b>Site Maximum</b>
<b>1.00</b>	<b>1.00</b>

**Field Data Sheets for Recreational Use Stream Surveys**  
**Data Sheet B - Site Characterization**  
**(must be completed for each site)**

WBID 1314  
 Site # 2

Date and Time: 8/22/2007 11:30 AM

Current Weather Conditions clear

Weather Conditions for Past 10 days: 0.3 inches was maximum rainfall

Drought Conditions? No

Site Location (e.g. road crossing) Dead End road North of Highway 54

GPS Mark: 50

Upstream Photo 41 Downstream Photo 40

**Uses Observed (Uses actually observed at time of survey) Circle**

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	<u><b>None of the Above</b></u>	Other	

**Surrounding Conditions**

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	<u><b>Fence</b></u>
Steep slopes	None of the Above	Other	

**Indications of Human Use**

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	

**WBID #** 1314      **Site #** 2  
**Mark #** 50      **Dissolved Oxygen (ppm)** 5.5  
**Upstream Views Physical Dimensions:** Is there any water present at this view? y  
 If so, is there an obvious current? n

**Select one of the following channel features:**

	% of Channel Feature				
Riffle					
Run	100				
Pool					

**Downstream View's Physical Dimensions:** Is there any water present at this view? y  
 If so, is there an obvious current? n


Substrate:

% Cobble	% Gravel	% Sand	100% Silt
% Mud/Clay	% Bedrock		

**Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)**

none

### Water Characteristics

Odor	Sewage	Musky	Chemical	<u><b>None</b></u>	Other
Color	Clear	Green	Gray	<u><b>Milky</b></u>	<u><b>Other</b></u> <u><b>brown</b></u>
Bottom Deposit	Sludge	Solids	<u><b>Fine Sed.</b></u>	None	Other
Surface Deposit	Oil	Scum	Foam	<u><b>None</b></u>	Other



**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 2

Mark # 50

WBID # 1314

	Depth (m)
<b>Transect 1</b>	0.15
Substrate:	0.35
silt	0.60
Water Clarity:	0.95
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	0.70
9.00	0.45
<b>0.65</b>	0.10
<b>Transect 2</b>	0.20
Substrate:	0.60
silt	0.85
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
9.00	0.70
<b>0.93</b>	0.30
<b>Transect 3</b>	0.20
Substrate:	0.40
silt	0.50
Water Clarity:	0.55
none	0.65
Channel Feature:	0.70
run	0.70
Channel Width:	0.75
8.00	0.75
<b>0.68</b>	0.75
<b>Transect 4</b>	0.35
Substrate:	0.75
silt	0.80
Water Clarity:	0.75
none	0.70
Channel Feature:	0.50
run	0.50
Channel Width:	0.55
9.00	0.50
<b>0.53</b>	0.20

	Depth (m)
<b>Transect 5</b>	0.15
Substrate:	0.30
silt	0.40
Water Clarity:	0.30
none	0.35
Channel Feature:	0.30
run	0.30
Channel Width:	0.40
9.00	0.55
<b>0.33</b>	0.40
<b>Transect 6</b>	0.10
Substrate:	0.20
silt	0.10
Water Clarity:	0.30
none	0.20
Channel Feature:	0.30
run	0.40
Channel Width:	0.55
9.00	0.90
<b>0.30</b>	0.40
<b>Transect 7</b>	0.10
Substrate:	0.15
silt	0.15
Water Clarity:	0.20
none	0.35
Channel Feature:	0.45
run	0.55
Channel Width:	0.60
9.00	0.60
<b>0.40</b>	0.65
<b>Transect 8</b>	0.05
Substrate:	0.00
silt	0.05
Water Clarity:	0.10
none	0.35
Channel Feature:	0.40
run	0.50
Channel Width:	0.60
10.00	0.75
<b>0.38</b>	0.60

	Depth (m)
<b>Transect 9</b>	0.15
Substrate:	0.30
silt	0.40
Water Clarity:	0.60
none	0.60
Channel Feature:	0.75
run	0.85
Channel Width:	0.80
9.00	0.70
<b>0.60</b>	0.55
<b>Transect 10</b>	0.35
Substrate:	0.50
silt	0.65
Water Clarity:	0.75
none	0.80
Channel Feature:	0.90
run	1.00
Channel Width:	1.00
8.00	1.00
<b>0.85</b>	1.00
<b>Transect 11</b>	0.25
Substrate:	0.60
silt	0.70
Water Clarity:	0.80
none	0.85
Channel Feature:	0.90
run	1.00
Channel Width:	1.00
8.00	1.00
<b>0.88</b>	1.00

<b>Site Median</b>	<b>Site Maximum</b>
<b>0.55</b>	<b>1.00</b>

**Field Data Sheets for Recreational Use Stream Surveys**  
**Data Sheet B - Site Characterization**  
**(must be completed for each site)**

WBID 1314  
 Site # 3

Date and Time: 8/22/2007 1:45 PM

Current Weather Conditions clear

Weather Conditions for Past 10 days: 0.3 inches was maximum rainfall

Drought Conditions? No

Site Location (e.g. road crossing) downstream of site #2

GPS Mark: 59

Upstream Photo 43 Downstream Photo 42

**Uses Observed (Uses actually observed at time of survey) Circle**

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	<u><b>None of the Above</b></u>	Other	

**Surrounding Conditions**

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	<u><b>Fence</b></u>
Steep slopes	None of the Above	Other	

**Indications of Human Use**

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	

**WBID #** 1314      **Site #** 3  
**Mark #** 59      **Dissolved Oxygen (ppm)** 5.7  
**Upstream Views Physical Dimensions:** Is there any water present at this view? y  
 If so, is there an obvious current? n

**Select one of the following channel features:**

	% of Channel Feature				
Riffle					
Run	100				
Pool					

**Downstream View's Physical Dimensions:** Is there any water present at this view? y  
 If so, is there an obvious current? n


Substrate:

% Cobble	% Gravel	% Sand	100% Silt
% Mud/Clay	% Bedrock		

**Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)**

none

### Water Characteristics

Odor	Sewage	Musky	Chemical	<u><b>None</b></u>	Other
Color	Clear	Green	Gray	<u><b>Milky</b></u>	<u><b>Other</b></u> <u><b>Brown</b></u>
Bottom Deposit	Sludge	Solids	<u><b>Fine Sed.</b></u>	None	Other
Surface Deposit	Oil	Scum	Foam	<u><b>None</b></u>	Other

**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 3

Mark # 59

WBID # 1314

	Depth (m)
<b>Transect 1</b>	0.25
Substrate:	0.70
silt	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
9.00	1.00
<b>1.00</b>	1.00
<b>Transect 2</b>	0.45
Substrate:	0.85
silt	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	1.00
<b>1.00</b>	1.00
<b>Transect 3</b>	0.55
Substrate:	0.80
silt	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
12.00	1.00
<b>1.00</b>	1.00
<b>Transect 4</b>	0.50
Substrate:	0.95
silt	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
11.00	0.85
<b>1.00</b>	0.80

	Depth (m)
<b>Transect 5</b>	0.40
Substrate:	0.80
silt	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	1.00
<b>1.00</b>	1.00
<b>Transect 6</b>	0.45
Substrate:	1.00
silt	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	0.90
<b>1.00</b>	0.90
<b>Transect 7</b>	0.50
Substrate:	0.85
silt	0.95
Water Clarity:	0.95
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	0.80
<b>0.95</b>	0.75
<b>Transect 8</b>	0.35
Substrate:	0.75
silt	0.85
Water Clarity:	0.90
none	0.90
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
10.00	1.00
<b>0.90</b>	0.85

	Depth (m)
<b>Transect 9</b>	0.40
Substrate:	0.95
silt	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	0.95
11.00	0.90
<b>0.98</b>	0.75
<b>Transect 10</b>	0.45
Substrate:	0.90
silt	1.00
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	1.00
12.00	0.75
<b>1.00</b>	0.55
<b>Transect 11</b>	0.55
Substrate:	0.85
silt	0.85
Water Clarity:	1.00
none	1.00
Channel Feature:	1.00
run	1.00
Channel Width:	0.95
12.00	0.80
<b>0.90</b>	0.80
<b>Site Median</b>	<b>Site Maximum</b>
<b>1.00</b>	<b>1.00</b>

**WBID# 1314**



**Site# 1 Photo ID# 39, Upstream**



**Site# 1 Photo ID# 38, Downstream**



**Site# 2 Photo ID# 41, Upstream**



**Site# 2 Photo ID# 40, Downstream**



**WBID# 1314**



**Site# 3 Photo ID# 43, Upstream**



**Site# 3 Photo ID# 42, Downstream**